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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,273	12/28/2001	David Chatenever	02580-P0006B	9457

24126 7590 01/25/2007
ST. ONGE STEWARD JOHNSTON & REENS, LLC
986 BEDFORD STREET
STAMFORD, CT 06905-5619

EXAMINER

HENN, TIMOTHY J

ART UNIT	PAPER NUMBER
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2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/034,273

Applicant(s)

CHATENEVER ET AL.

Examiner

Timothy J. Henn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 17-21 are rejected under 35 U.S.C. 102(a) as being anticipated by Saito et al. (US 6,184,922).

[claim 17]

Regarding claim 17, Saito discloses a video imaging system comprising: a camera head for transmitting image data (Figure 1, Item 4), a camera control unit for receiving and processing the image data from the camera head (Figure 1, Item 6), said camera control unit including at least one replaceable hardware component (Figure 1, Items 9, 10, 97).

[claim 18]

Regarding claim 18, Saito discloses a storage device accessible by the camera control unit (Figure 2, Item 45).

[claim 19]

Regarding claim 19, Saito discloses information stored on the storage device (i.e. image frames; Figure 2).

[claim 20]

Regarding claim 20, Saito discloses a connector for outputting a signal processed from the image data (.e. processed image data from the camera head; Figure 2; Figures 3-5; The connector receives image data which has undergone basic image processing and outputs it to the internal circuitry of the replaceable hardware unit).

[claim 21]

Regarding claim 21, Saito discloses a replaceable hardware component which processes at least two different types of image data (i.e. still and motion; c. 4, ll. 13-27).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 14-16, 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (US 6,638,212) in view of Kimura et al. (US 4,816,909).

[claim 1]

Regarding claim 1, Oshima discloses a video imaging system comprising: a camera head for transmitting image data (Figure 1, Item 2); a camera control unit for receiving and processing image data from the camera head (Figure 1, Items 3-6); a storage device accessible by the camera control unit (Figure 1, Item 8) and information

stored on the storage device (c. 5, ll. 37-41). Oshima further discloses a plurality of hardware components capable of processing image data (e.g. Figure 1, Items 3A, 3B and 3D), but does not disclose selecting one of the hardware components using the information stored in the storage device.

Kimura discloses a similar video imaging system in which information stored on a camera head storage device is used to select appropriate camera control unit circuitry for interfacing with the camera head (Figures 1 and 5; c. 5, ll. 45-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to discriminate the type of camera head connected based on information stored on a storage device and to automatically switch to an appropriate processing circuit to ensure that the camera head can properly interface with the camera control unit.

[claim 4]

Regarding claim 4, Oshima discloses a camera head including the storage device (Figure 1, Items 2 and 8).

[claim 14]

Regarding claim 14, Oshima discloses a camera control unit including hardware capable of processing at least two different types of image data (e.g. Figure 1, Items 3A and 3B). The examiner notes that "types of image data" is a broad limitation and can be read as image data from an endoscope capable of communication with processing block 3A and second image data from an endoscope capable of communication with processing block 3B.

[claim 15]

Regarding claim 15, Oshima in view of Kimura discloses routing the received image data to the hardware capable of processing a specified type of image data, see claims 1 and 14 for further details.

[claim 16]

Regarding claim 16, Oshima in view of Kimura discloses information which enables the camera control unit to issue commands to the camera head (i.e. connecting the camera head to the appropriate camera block; Figure 2).

[claims 25 and 28]

Claims 25 and 28 are method claims corresponding to claims 1 and 14. Therefore, claims 25 and 28 are analyzed and rejected as previously discussed with respect to claims 1 and 14. The examiner notes that in the system of Oshima in view of Kimura, the information stored on the storage device described in claim 1 must inherently be retrieved and executed (i.e. analyzed) to determine the proper hardware component to process image data.

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (US 6,638,212) in view of Kimura et al. (US 4,816,909) in view of Nakamura et al. (US 5,627,583).

[claim 2]

Regarding claim 2, Oshima in view of Kimura does not disclose receiving a camera head identifier and retrieving information from the storage unit based on the camera head identifier. Nakamura discloses a camera which sends a camera head

identifier to a camera control unit and a camera control unit which retrieves information from a storage device based on the identifier (Figure 6; c. 7, ll. 7-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a camera head identifier to instruct the camera control unit to retrieve information from a storage device in the system of Oshima in view of Kimura instead of sending the information from the camera head. Such a system would reduce the amount of storage necessary on the camera head.

[claim 3]

Regarding claim 3, Nakamura discloses transmitting a camera head identifier (Figure 6; c. 7, ll. 7-50).

6. Claims 5-13, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (US 6,638,212) in view of Kimura et al. (US 4,816,909) in view of Saito et al. (US 6,184,922).

[claim 5]

Regarding claim 5, Oshima in view of Kimura does not disclose a control unit comprising at least one replaceable hardware component. Saito discloses a camera control unit including replaceable hardware component expansion circuits (e.g. Figure 2, Items 9 and 10) which allow the camera control unit to be easily reconfigured as needed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include expansion circuits as taught by Saito in the system of Oshima in view of Kimura to allow the camera control unit to be reconfigured

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as needed.

[claim 6]

Regarding claim 6, Oshima in view of Kimura discloses selecting appropriate image processing hardware according to information stored on a storage device (see rejection of claim 1). Following these teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to select the replaceable hardware component if the replaceable hardware component is needed to process the image data.

[claim 7]

Regarding claim 7, Saito discloses a replaceable hardware component including a processor (Figure 2, Items 9a and 10a).

[claim 8]

Regarding claim 8, Saito discloses a replaceable hardware component including a memory device (c. 4, ll. 28-44).

[claim 9]

Regarding claim 9, Saito discloses a replaceable hardware component for processing image data, but does not disclose a replaceable hardware component including an FPGA. Official Notice is taken that the use of FPGA devices for image processing is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an FPGA device in the replaceable hardware components of Oshima in view of Kimura to allow for easy

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upgrading of the replaceable hardware device via reconfiguring the FPGA if necessary.

[claim 10]

Regarding claim 10, Saito discloses a replaceable hardware component which attaches to a video bus (Figure 2).

[claim 11]

Regarding claim 11, Saito discloses a replaceable hardware component including a connector (Figure 1, Item 8).

[claim 12]

Regarding claim 12, Saito discloses a connector which receives image data (Figure 1, Item 8).

[claim 13]

Regarding claim 13, Saito discloses a connector which outputs a signal processed from the image data (i.e. processed image data from the camera head; Figure 2; Figures 3-5; The connector receives image data which has undergone basic image processing and outputs it to the internal circuitry of the replaceable hardware unit).

[claim 26]

Claim 26 is a method claim corresponding to apparatus claim 5. Therefore, claim 26 is analyzed and rejected as previously discussed with respect to claim 5.

[claim 27]

Regarding claim 27, Saito discloses configuring the at least one replaceable hardware component (e.g. placing a selected memory card in the replaceable hardware component (Figures 6 and 7).

7. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. (US 6,184,922) in view of Nakamura et al. (US 5,627,583).

[claim 22]

Regarding claim 22, Saito discloses a video imaging system comprising: a camera head for transmitting image data (Figure 1, Item 4), a camera control unit for receiving and processing the image data from the camera head (Figure 1, Item 6), said camera control unit including at least one replaceable hardware component (Figure 1, Items 9, 10, 97). However, Saito does not disclose software executing on the camera control unit for selecting hardware in the camera control unit to process image data.

Nakamura discloses a camera control unit system in which an FPGA device is used to process image data (Figure 2, Item 16). Nakamura further discloses that circuit data (i.e. "software") can be used to reconfigure the FPGA device as necessary to allow the camera control unit to communicate with multiple types of camera heads (c. 4, ll. 15-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an FPGA device and software executing on the camera control unit reconfiguring the FPGA device to optimally process the image data from the connected endoscope. The examiner notes that by configuring an FPGA

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device, hardware within the FPGA device is inherently "selected" as claimed.

[claims 23 and 24]

Regarding claim 23, Nakamura discloses a storage device accessible by the camera control unit for storing the circuit data or "software" for reconfiguring the FPGA device (e.g. Figure 6, Item 57).

Conclusion


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TJH
1/19/2006



VIVEK SRIVASTAVA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600